**How to: Create a Basic Data Contract for a Class or Structure**

This topic shows the basic steps to create a data contract using a class or structure. For more information about data contracts and how they are used, see [Using Data Contracts](http://msdn.microsoft.com/en-us/library/ms733127.aspx).

For a tutorial that walks through the steps of creating a basic Windows Communication Foundation (WCF) service and client, see the [Getting Started Tutorial](http://msdn.microsoft.com/en-us/library/ms734712.aspx). For a working sample application that consists of a basic service and client, see [Basic Data Contract](http://msdn.microsoft.com/en-us/library/ms752104.aspx).

**To create a basic data contract for a class or structure**

1. Declare that the type has a data contract by applying the [DataContractAttribute](http://msdn.microsoft.com/en-us/library/system.runtime.serialization.datacontractattribute.aspx) attribute to the class. Note that all public types, including those without attributes, are serializable. The [DataContractSerializer](http://msdn.microsoft.com/en-us/library/system.runtime.serialization.datacontractserializer.aspx) infers a data contract if the **DataContractAttribute** attribute is absent. For more information, see, see [Serializable Types](http://msdn.microsoft.com/en-us/library/cc656732.aspx).
2. Define the members (properties, fields, or events) that are serialized by applying the [DataMemberAttribute](http://msdn.microsoft.com/en-us/library/system.runtime.serialization.datamemberattribute.aspx) attribute to each member. These members are called data members. By default, all public types are serializable. For more information, see, see [Serializable Types](http://msdn.microsoft.com/en-us/library/cc656732.aspx).

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| --- |
| **Description: ms733811.note(en-us,VS.100).gifNote:** |
| You can apply the **DataMemberAttribute** attribute to private fields, causing the data to be exposed to others. Be sure that the member does not contain sensitive data. |

**Example**

The following example shows how to create a data contract for the Person type by applying the **DataContractAttribute** and **DataMemberAttribute** attributes to the class and its members.

Visual Basic

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<DataContract()> \_

Public Class Person

' This member is serialized.

<DataMember()> \_

Friend FullName As String

' This is serialized even though it is private.

<DataMember()> \_

Private Age As Integer

' This is not serialized because the DataMemberAttribute

' has not been applied.

Private MailingAddress As String

' This is not serialized, but the property is.

Private telephoneNumberValue As String

<DataMember()> \_

Public Property TelephoneNumber() As String

Get

Return telephoneNumberValue

End Get

Set

telephoneNumberValue = value

End Set

End Property

End Class

C#

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using System;

using System.Runtime.Serialization;

[DataContract]

public class Person

{

// This member is serialized.

[DataMember]

internal string FullName;

// This is serialized even though it is private.

[DataMember]

private int Age;

// This is not serialized because the DataMemberAttribute

// has not been applied.

private string MailingAddress;

// This is not serialized, but the property is.

private string telephoneNumberValue;

[DataMember]

public string TelephoneNumber

{

get { return telephoneNumberValue; }

set { telephoneNumberValue = value; }

}

}